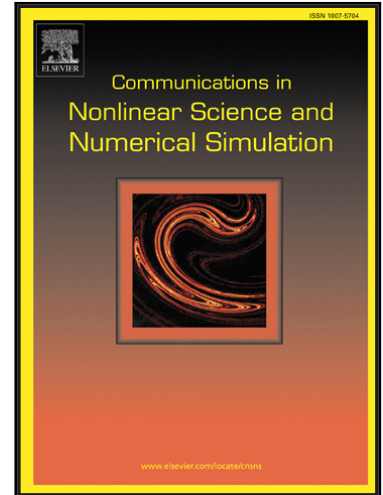


## Accepted Manuscript

On Dynamics in a Keynesian Model of Monetary Stabilization Policy with Debt Effect

Toichiro Asada , Michal Demetrian , Rudolf Zimka

PII: S1007-5704(17)30221-6  
DOI: [10.1016/j.cnsns.2017.06.013](https://doi.org/10.1016/j.cnsns.2017.06.013)  
Reference: CNSNS 4233



To appear in: *Communications in Nonlinear Science and Numerical Simulation*

Received date: 29 November 2016  
Revised date: 15 May 2017  
Accepted date: 5 June 2017

Please cite this article as: Toichiro Asada , Michal Demetrian , Rudolf Zimka , On Dynamics in a Keynesian Model of Monetary Stabilization Policy with Debt Effect, *Communications in Nonlinear Science and Numerical Simulation* (2017), doi: [10.1016/j.cnsns.2017.06.013](https://doi.org/10.1016/j.cnsns.2017.06.013)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

# On Dynamics in a Keynesian Model of Monetary Stabilization Policy with Debt Effect

Toichiro Asada<sup>a</sup>, Michal Demetrian<sup>b</sup>, Rudolf Zimka<sup>c\*</sup>

<sup>a</sup> Faculty of Economics, Chuo University, Tokyo, Japan

<sup>b</sup> Faculty of Mathematics and Informatics, Comenius University, Bratislava, Slovakia

<sup>c</sup> Faculty of Economics, Matej Bel University, Slovakia

## Abstract.

In this paper, a four-dimensional model of flexible prices with the central bank's stabilization policy, describing the development of the firms' private debt, the output, the expected rate of inflation and the rate of interest is analyzed. Questions concerning the existence of limit cycles around its normal equilibrium point are investigated. The bifurcation equation is found. The formulae for the calculation of its coefficients are gained. A numerical example is presented by means of numerical simulations.

*Keywords.* Macroeconomic dynamic model, Equilibrium, Bifurcation equation, Limit cycle, Monetary stabilization policy.

## 1. Introduction

In recent times, the credibility of Minsky's [1,2] financial instability hypothesis (that a financially dominated capitalist economy is inherently unstable), is rapidly increasing. It seems that the recent turbulence of the world economy has proved it. For example, the Japanese economy experienced the serious deflationary depression in the 1990s and the 2000s, and the serious financial crisis that began in the USA with the 2008 mortgage crisis rapidly spread to other parts of the world such as European and Asian countries.<sup>1</sup> But Minsky did not think that such inherent instability is uncontrollable by the government and the central bank. He emphasized that it is important to "stabilize an unstable economy" by means of the proper macroeconomic stabilization policies implemented by the government and the central bank. In this respect, Minsky inherits Keynes' spirit [5].

---

<sup>1</sup> See Krugman [3] and Wolf [4] as for the detailed descriptions of such phenomena.

\* Corresponding author.

E-mail address: [rudolf.zimka@umb.sk](mailto:rudolf.zimka@umb.sk) (R. Zimka)

Download English Version:

<https://daneshyari.com/en/article/7154898>

Download Persian Version:

<https://daneshyari.com/article/7154898>

[Daneshyari.com](https://daneshyari.com)